

patients (22% of those treated with one-daily dosing). Those subjects showed lower values in several dimensions of the quality of life. This is a new way to estimate the GPAO and HTO prevalence. This allowed to give a useful approximation to professionals involved in ocular diseases medical, economical and societal management. **CONCLUSION:** On the basis of this first nationwide study, it can be estimated that the prevalence of subjects treated with IOP-lowering topical medications is about 1.2 million in France. Number of daily doses appear to influence compliance.

EYE—Cost Studies

THE ECONOMIC IMPACT OF BLUE-LIGHT FILTERING INTRAOCULAR LENSES ON AGE-RELATED MACULAR DEGENERATION ASSOCIATED WITH CATARACT SURGERY Reddy P¹, Gao X², Barnes R³, Fairchild C³, Boci K², Waycaster C³, Pashos CL¹

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OBJECTIVES: Epidemiological data support an association between age-related macular degeneration (AMD) and cataract surgery that may be attributed to post-operative blue light exposure. By limiting the retina's blue light exposure, new blue-light filtering intraocular lenses (BLF IOLs) have the potential to reduce the development of AMD following cataract surgery. In the current economic healthcare environment, there is increased interest in the cost-effectiveness of new medical technologies. The objective of this analysis was to evaluate the cost-effectiveness of a BLF IOL versus a non-BLF IOL in cataract surgery. **METHODS:** An economic model was developed to emulate three age-specific cohorts and to assess the clinical and economic outcomes over 5 years. Data from the published literature was supplemented with clinical expert opinion. Key clinical inputs were the risk of AMD after cataract surgery and the effectiveness of the BLF IOL in reducing the risk of AMD. Direct medical costs including the cost of the IOL, monitoring, and AMD prophylaxis and treatment were incorporated into the model. All costs were standardized to 2004 US dollars. Age-stratified base-case and sensitivity analyses were conducted. **RESULTS:** In the BLF IOL group, the 5-year age-stratified incidence of AMD ranged from 0.58 to 9.23 per 100 eyes, compared with 1.69 to 24.55 per 100 eyes in the non-BLF IOL group. The incremental cost of the BLF was offset by reduced costs associated with averted AMD treatment. Estimated savings with BLF IOLs per 100 eyes were \$4275, \$29,997, and \$111,734 in the 55 to 64 year-old, 65 to 74 year-old, and ≥75-year-old cohorts, respectively; these findings remained robust across the sensitivity analyses. **CONCLUSION:** This study suggests that the economic benefits of implanting BLF IOLs during cataract surgery are observed in all patients although cost savings are greatest in patients ≥75 years.

PEY3

EVALUATION OF DIRECT MEDICAL COST OF EXUDATIVE AGE-RELATED MACULAR DEGENERATION IN PATIENTS IN THE MEDICARE POPULATION

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OBJECTIVE: Exudative age-related macular degeneration (AMD) is the most common cause of blindness among older Americans in the United States. No substantive information on costs for exudative AMD was found in the literature. This study estimates incremental costs for the disease. **METHODS:** Seven

years (1994–2000) of 5% sample of Medicare medical claims data from the Standard Analytical File (SAF) was used. We followed AMD and control patients with an index date starting in 1996 for two years. Incremental cost was defined as the excess cost for exudative AMD cohort over that of an age-gender-matched non-exudative-AMD group based on Medicare reimbursed expenditures. We also estimated the 10-year projected cost using Medical Price Index. Cost from AMD related comorbid conditions, such as depression which could worsen as the result of the progression in exudative AMD, were evaluated individually. **RESULTS:** A total of 3059 wet AMD patients were identified and a cohort of non-wet-AMD with same size was also created. Two years' incremental medical cost for wet AMD patients compared to the controlled cohort is \$2689, including \$485 (18%) for inpatient hospital, \$1132 (42%) for outpatient hospital, and \$1034 (38%) for office visits. The 10-year projected cost was \$16,148, including \$6795 for outpatient hospital and \$6207 for office visit. Incremental cost of depression almost doubled 1 year after the diagnosis of wet AMD, increasing from \$64/year to \$118/year. **CONCLUSION:** Excess cost for wet AMD after initial diagnosis was substantial. This research does not incorporate Medicaid covered expenses and out of pocket costs. With the aging population and people living longer, the economic burden of this disease will increase. This information may help researchers and policy makers in assessing benefit and increase use of approved AMD therapies, such as Macugen (pegaptanib sodium) to help determine the clinical and economic benefits to patients and society.

PEY5

ECONOMIC EVALUATION OF PHOTODYNAMIC THERAPY (VISUDYNE®) COMPARED TO USUAL CARE IN THE TREATMENT OF AGE RELATED MACULAR DEGENERATION (ARMD) IN USA

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OBJECTIVES: ARMD is the leading cause of blindness for people aged 60 and over in the US, resulting in significant visual field losses, and consequent occurrences of serious vision-related conditions and events, reductions in health-related quality of life, and economic costs. The research objective was to assess the incremental cost-utility of Visudyne®, relative to usual care of ARMD. **METHODS:** A Markov cohort model was developed to simulate progressive loss of visual acuity, treatment alternatives and consequent clinical events and costs. Efficacy of Visudyne® was based on pooled results of three two-year randomized placebo-controlled trials, and extrapolated to a horizon of 15 years. Treatment was assumed to be discontinued after two years. Extrapolation of clinical trial results for both the treatment and usual care arms of the model were based on the usual care outcomes. Patients were grouped based on lesion type and size. Relative risks and costs of serious clinical events (e.g., hip fractures, nursing home placement), and utilities associated with levels of visual acuity were derived from the literature. Incremental cost-effectiveness ratios (ICERs) were expressed as 2004 US dollars per quality-adjusted life year (\$/QALY). One-way sensitivity analyses were performed with respect to efficacy, the proportion of patients receiving treatment for the better-seeing eye, and other clinical, utility, and cost parameters. **RESULTS:** The ICER of Visudyne® was \$35,200/QALY, and was most sensitive to the proportion of patients whose treatment was in the better-seeing eye, the source for utilities, and the distribution of patients

PEY4